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ABSTRACT

The poverty affecting 14.5 million U.S. children living below the poverty line poses long-term effects, including risks to health, educational achievement, family stability, and employment prospects. This report provides compelling evidence of the substantial costs of poverty among children to our nation's economic well-being, and shows that policies to reduce the poverty rate among children must be a fundamental part of efforts to build a healthy economy for the 21st century. The report examines: (1) the odds against poor children; (2) whether ending poverty can really help; (3) updated estimates of economic costs of children's poverty; (4) why poverty hurts children; and (5) how to end poverty. Key findings noted in the report include the following: (1) poverty puts children at a greater risk of falling behind in school than does living in a single-parent home or being born to teenage parents; (2) reasons for poor children's problems appear to include their families' inability to afford adequate housing, nutritious food, or adequate child care, as well as problems of lead poisoning, limited learning opportunities at home, and severe emotional stress and family breakup caused by economic strains on the parents; and (3) research indicates that problems manifested by children in poverty are not the side effects of race, mother's educational or marital status, nor deep-seated traits inherent in poor families. Recommendations noted in the report include: (1) ensuring availability of jobs with family-supporting wages; (2) expanding education and training; (3) ending disincentives for marriage; and (4) ensuring a safety net for those exiting welfare. (HTH)

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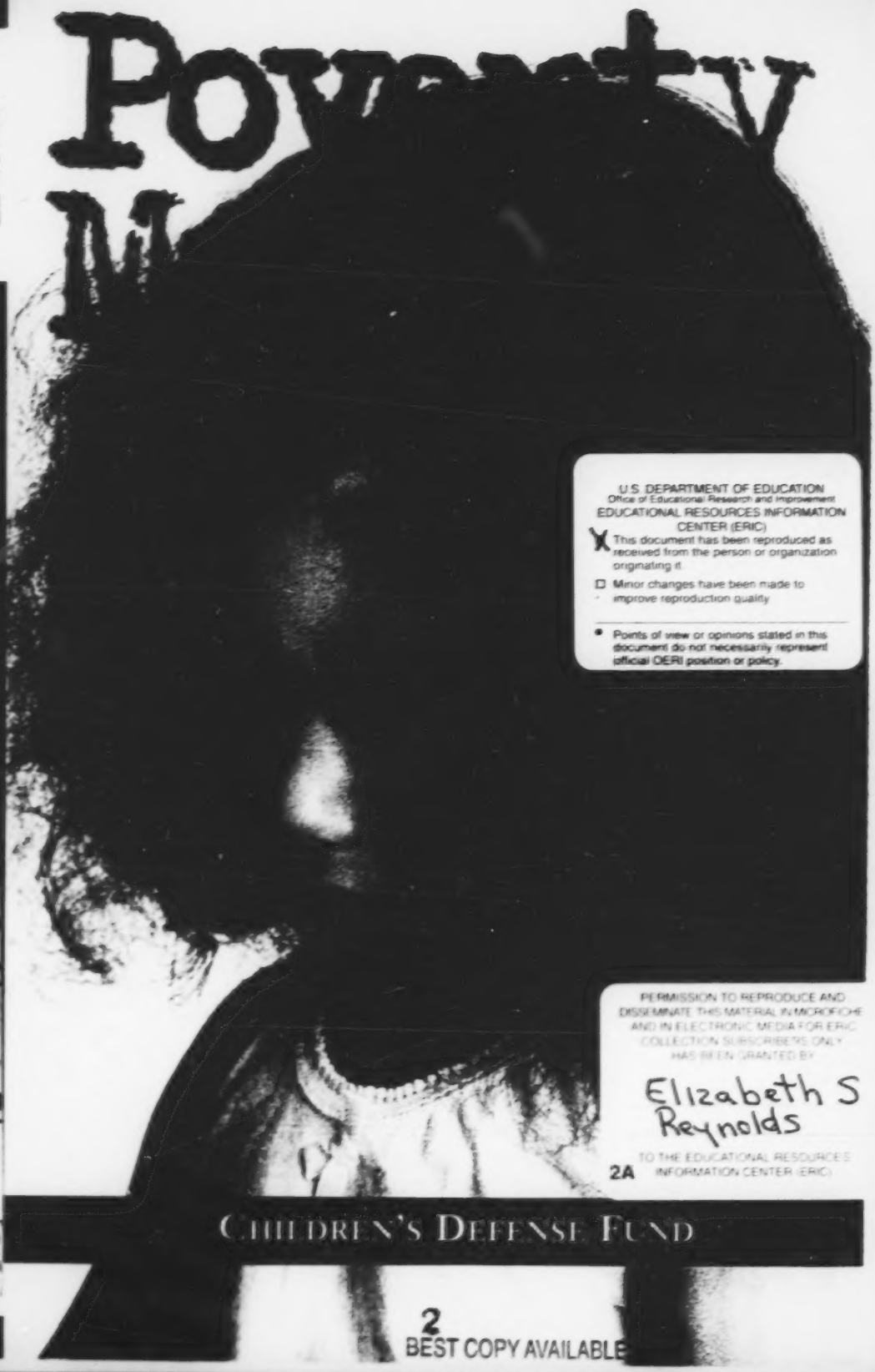

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Poverty Matters

The Cost of Child Poverty in America

by
Arloc Sherman

Children's Defense Fund

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About CDF

The Children's Defense Fund (CDF) exists to provide a strong and effective voice for all the children of America, who cannot vote, lobby, or speak for themselves. We pay particular attention to the needs of poor and minority children and those with disabilities. Our goal is to educate the nation about the needs of children and encourage preventive investment in children before they get sick, drop out of school, suffer family breakdown, or get into trouble. In 1998, CDF will celebrate 25 years of advocacy, service, and leadership to build a movement to Leave No Child Behind and to ensure every child a Healthy Start, a Head Start, a Fair Start, a Safe Start, and a Moral Start in life with nurturing families and in caring communities.

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Key Findings and Recommendations

Poverty matters profoundly to the 14.5 million U.S. children — more than one in every five — who live below the poverty line (see Figure on page 3).

- Poor children's troubles include increased risk of stunted growth, anemia, repeated years of schooling, lower test scores, and less education, as well as lower wages and lower earnings in their adult years.
- Poverty is a greater risk to children's overall health status than is living in a single parent family.
- A baby born poor is less likely to survive to its first birthday than a baby born to an unwed mother, a high school dropout, or a mother who smoked during pregnancy.
- Poverty puts children at a greater risk of falling behind in school than does living in a single parent home or being born to teenage parents, according to data from the U.S. Department of Education.
- Reasons for poor children's problems appear to include their families' inability to afford adequate housing, nutritious food, or adequate child care, as well as lead poisoning, limited learning opportunities at home, and severe emotional stress and family breakup caused by economic strains on the parents.

The Multi-Billion Dollar Damage

The damage caused by even one year of childhood poverty has a profound impact on the nation. All segments of society share in paying the costs of children's poverty — and would share the gains if child poverty were eliminated.

The American labor force is projected to lose as much as **$130 billion** in future productive capacity — an amount more than twice the size of the U.S. annual trade deficit with Japan — for every year that 14.5 million American children continue to live in poverty. These costs will spill over to employers and consumers, making it harder for businesses to expand technology, train workers, or produce a full range of high-quality products.

Additional costs will be borne by schools, hospitals, and taxpayers, as poor children are held back in school and require special education and tutoring; experience a lifetime of heightened medical problems and reliance on social services; and fail to earn and contribute as much in taxes.

Scapegoating Refuted

New evidence shows that raising poor families' incomes is likely to work as a strategy for easing the problems of childhood poverty.

- Recent academic studies demonstrate that child poverty's ill effects in a host of areas **cannot be explained away** as mere side effects of single parenthood, teen parenthood, race, or parents' low IQs or lack of education.
- New research also disproves those who blame poor children's problems on deep-seated traits inherent in poor families themselves. Studies show that poor children's reduced education and

earnings are not the inevitable by-products of poor motivation, a "poverty of values," limited parenting ability, or other deep-seated character traits that some Americans attribute to poor families.

- This evidence bolsters findings from earlier antipoverty experiments. These experiments showed that children stayed in school and completed more education when their parents were offered income supplements.

Ending poverty in a manner that supports work and preserves families is not merely economically sensible; it is demanded by America's deepest moral values regarding work, family, mutual responsibility, compassion, and opportunity. The best antidote to poverty is a job that provides adequate wages to support a family. Childhood poverty can be ended if local communities, the private sector, and government combine to support a profamily, prowork agenda built on three principles:

1. Families must have the tools required for family-supporting work, including child care, training, and transportation.
2. Children must be able to count on support from both parents.
3. America must no longer allow any children — not least children in working families — to be poor.

Major recommendations for a prowork, profamily agenda to end child poverty include:

- Businesses, states, and local communities should work together to make sure that **jobs paying family-supporting wages** are available in the private sector, or in the public sector as a last resort.
- Private employers and state and local governments should expand **education and training** for workers, including parents leaving the welfare rolls.
- Congress should permit states to count education and training as allowable activity under federal welfare-to-work rules so that these parents can move into jobs that will lift them and their children out of poverty.
- Federal and state governments and businesses should build on current investments to help families gain quality affordable **child care.**
- The **minimum wage** should be increased in stages and/or **wage supplements** must be used to help sustain families until their income can support a family of three above the poverty line.
- The federal government should adequately fund youth development and youth job training programs that bolster a work ethic in young people and help them acquire the skills needed for success in the labor market.
- States should **end disincentives for marriage** that still exist in many states' welfare rules by offering poor two-parent families the same help as single parent families.
- States should do a better job of enforcing the child support obligations of absent parents and should experiment with **child support assurance** systems to ensure that children in single parent homes receive at least a minimum child support payment each month.
- When working parents cannot earn enough to raise children out of poverty, **refundable child tax credits** and/or

partial cash assistance must supplement their earnings.

- States must continue to ensure a **safety net** for children who have lost federal help under the 1996 welfare law, so that no child goes without needed food, clothing, medical care, or adequate shelter. Some such help will always be necessary for families who are unable to work because of disability, local shortage of jobs, or other reasons — even if the nation succeeds in reducing the need for a safety net by enacting the broader work- and family-based structure recommended here.

Family income is not the only thing children need. Children need a strong foundation of health care, immunizations, quality child care and early childhood education, good schools, and other fundamental services. Ensuring these services are in place for all children will help stop the long-lasting, multigenerational effects of poverty on children. Yet none of these services is enough when families lack the jobs and income necessary to feed, house, and clothe their children and purchase the innumerable items — from child safety devices to books — that support a child's safe and successful development. When families are poor, children are less likely to thrive. Ending their poverty matters. ■

Figure

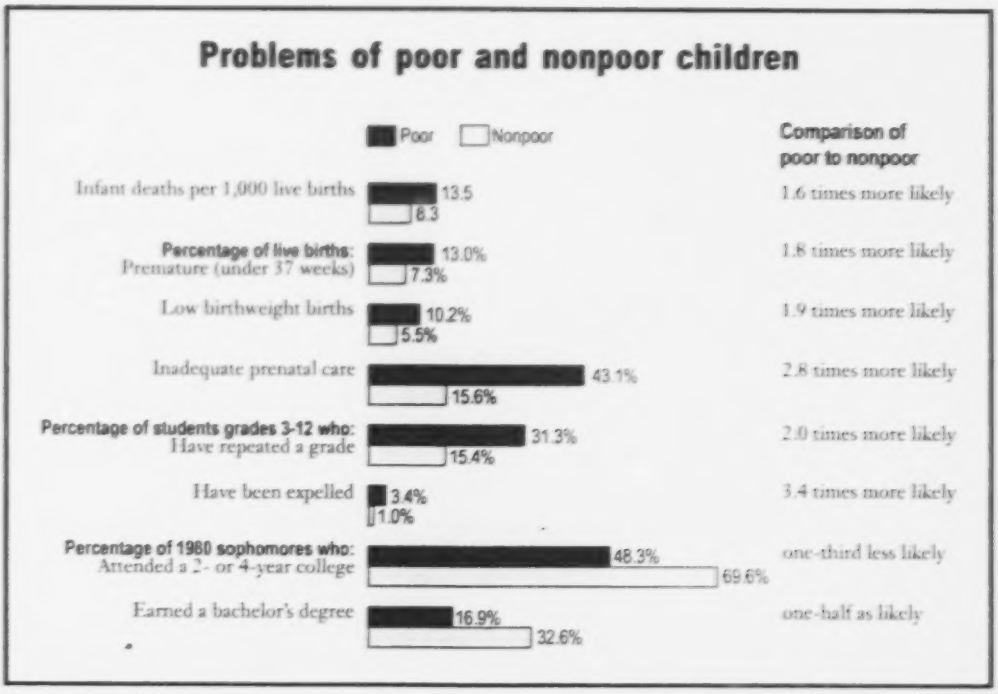

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Table

Children's bad outcomes by family income

Outcome	Low-income children's higher risk
Health	
Death in childhood	1.5 to 3 times more likely
Stunted growth	2.7 times more likely[a]
Iron deficiency as preschoolers	3 to 4 times more likely
Partly or completely deaf	1.5 to 2 times more likely
Partly or completely blind	1.2 to 1.8 times more likely
Serious physical or mental disabilities	about 2 times more likely
Fatal accidental injuries	2 to 3 times more likely
Pneumonia	1.6 times more likely
Education	
Average IQ scores at age 5	9 test points lower[b]
Average achievement scores for ages 3 and older	11 to 25 percentiles lower
Learning disabilities	1.3 times more likely
In special education	2 or 3 percentage points more likely
Below usual grade for child's age	2 percentage points more likely for each year of childhood spent in poverty
Dropping out from ages 16 to 24	2 times more likely than middle-income youths; 11 times more likely than wealthy youths

[a]Odds ratio for children in long-term poor families compared with upper income families with long-term incomes at least four times the poverty line.

[b]For children in persistently poor families compared with never-poor children who are similar in terms of ethnicity, family structure, and parents' education.

Sources: For death during childhood, 1.5 times more likely: See Jeanne Brooks-Gunn and Greg J. Duncan, The Effects of Poverty on Children, *The Future of Children*, 7, 55-71, citing data from the U.S. National Longitudinal Mortality Study, 1979–1995 Follow-Up. For death during childhood, 3 times more likely: Children's Defense Fund, *Wasting America's Future: The Children's Defense Fund Report on the Costs of Child Poverty*. Boston: Beacon Press, 1994, Chapter 3.

For fair/poor health status: Laura Montgomery et al., The Effects of Poverty, Race, and Family Structure on U.S. Children's Health: Data from the NHIS, 1978–1980 and 1989–1991, *American Journal of Public Health*, October 1996. For stunted growth: Sanders Korenman and Jane E. Miller, Effects of Long-Term Poverty on Physical Health of Children in the National Longitudinal Survey of Youth, in Greg J. Duncan and Jeanne Brooks-Gunn (Eds.), *Consequences of Growing Up Poor*. New York: Russell Sage, 1997.

For all other comparisons, see: *Wasting America's Future*, Chapter 3.

Chapter 1

The Odds Against Poor Children

America's poor children walk a gauntlet of troubles that start at birth and whose consequences often follow them through their adult lives.

They are nearly 90 percent more likely than nonpoor children to be born weighing too little and 80 percent more likely to be born too soon (see Table on facing page).[1] They are three times more likely to be reported in fair or poor health. More than one million low-income young children have anemia, meaning their red blood cells cannot carry enough oxygen to their bodies.[2] Poor 5- to 7-year-olds have been found to have nearly triple the odds of stunted growth, compared with otherwise-similar children from well-to-do homes. Low-income children are at least 50 percent more likely to die during childhood, according to one nationwide study. State health officials in Kansas report that before reaching age 18, low-income children there are

- two times more likely to die from accidents.
- three times more likely to die overall.
- four times more likely to die in fires.
- five times more likely to die from infectious diseases and parasites.
- six times more likely to die from other diseases.

Low-income children are two to three times more likely to be born at low birthweight, to have delayed immunizations, to contract bacterial meningitis, and to be lead poisoned, according to Dr. Barbara Starfield, director of health policy studies at Johns Hopkins University in Baltimore. "And when poor children get sick, their problems hit harder."

As a result, they are at "triple to quadruple risk of serious problems," says Starfield. This is true "for illness progressing to death, for injuries progressing to death, for complications of various illnesses, for severely impaired vision, and for severe iron deficiency anemia."[3]

Although the vast majority of poor children survive childhood and most eventually finish high school and get jobs, too often their school and work careers show deep and lasting scars. Poor youths tend to score lower on national tests of reading, math, and vocabulary. They are twice as likely to repeat a grade. They have more behavior problems and are three times more likely to be expelled from school. The high school dropout rate of low-income 16- to 24-year-olds is twice that of middle-income youths and 11 times that of wealthy children. The chances of earning a bachelor's degree are only half as good for poor high school sophomores as for the nonpoor.

By age 24, girls in low-income families are twice as likely to have become single mothers as those who grew up in middle-income homes (47 percent versus 20 percent), according to University of Chicago analyst Susan E. Mayer. Low-income boys are

twice as likely to spend the year out of work and out of school (17 percent versus 7 percent). By ages 19 to 30, Mayer has found that young men who grew up in the poorest fifth of families make 25 percent less per hour of work ($8.57 compared with $11.37 for middle-income male workers in 1992 dollars), and their annual earnings are lower ($16,772 versus $23,306). Children from the poorest fifth of families are twice as likely to receive welfare when they are older (11 percent versus 5 percent).[8] By their late 20s and early 30s, according to University of Michigan researchers Mary Corcoran and Terry Adams, children raised in poor families are "much more likely to be poor" than those from middle- and upper income homes.[9]

Growing up poor is one of the greatest harbingers of harm for America's children.

From mosquito bite to hospital stay

When Bobby, a preschooler from a New England city, scratched a mosquito bite on his leg, the area became infected. His parents took him to a doctor, who prescribed an antibiotic. However, because Bobby's father earned very low wages at his job, the family could not immediately afford to buy the prescription.

As a result of the family's poverty, the infection grew dangerously out of control, and Bobby was hospitalized for three days in order to receive intravenous antibiotics. Each of those hospital days cost about $800, doctors estimated.

Poverty is:

- the risk factor with "the strongest effect on child health," according to government health analysts who compared poverty, race, and living in a single parent family.[8]
- associated with a higher infant death rate than being born to a single mother or to a mother who dropped out of high school or smoked cigarettes during pregnancy.[7]
- a greater risk factor for falling behind in school than are race, region, having a teen parent, or living in a one-parent home, according to a U.S. Department of Education study.[8]
- a far more powerful correlate of IQ at age 5 than maternal education, ethnicity, and growing up in a female-headed family.[9]
- a stronger correlate of children's ability and achievement than "maternal schooling and family structure," according to a summary of 12 studies of long-term poverty by leading scholars.[10] (However, one of these scholars noted that family structure appeared to be more important for psychological and behavioral outcomes such as an unwed birth.)[11]

Virtually every day, the nation's top leaders take a firm public stand against one or more of these risks for children but not against child poverty. On every box of cigarettes, the U.S. Surgeon General has put warnings to pregnant mothers about the dangers of smoking. Highly publicized White House initiatives have tackled problems of race, teen parenthood, and family literacy. The preamble to the 1996 law ending the Aid to Families of

Dependent Children program states that the new law "is intended to address the crisis" of marital dissolution and births to single mothers. Yet little public attention has been given to the overarching problem of children's extraordinarily high rates of poverty, a problem whose solution is within the nation's immediate grasp. ■

How poor is poor?

By the time they turn 16, one in three American children will have spent at least one year in poverty. In 1996, more than one in every five children, a total of 14.5 million, lived in poverty in the United States. By most Americans' standards, the official federal poverty thresholds are low. To be deemed poor by the Census Bureau, a family has to make less than the poverty threshold for family size: $12,516 in 1996 for a three-person family, $16,036 for a family of four.

In fact, most poor families make much less than these thresholds. The average poor family with children made only $8,632 in 1996, or about $6.13 per person per day. Per person, their entire income in 1996 was less than the average well-to-do household spent just on entertainment and eating out. Moreover, poor children today tend to be even deeper in poverty than they were two decades ago, even though the nation as a whole is richer than it was then. Nearly half of poor children (43 percent) live below one-half of the poverty threshold ($8,018 for a family of four), compared with fewer than one in three in 1976 (28 percent).

Not surprisingly, children in families with such limited resources frequently do without the basics, such as food, adequate housing, or quality child care. (See Chapter 4 for poor children's shortfalls in these and other vital needs and Figure 1 on page 23.)

'Mom, I'm still hungry!'

In 1983, Mary Tamper's middle-income world came tumbling down when her husband, William, died of leukemia, leaving Mary struggling to support her young son, Justin, on a meager salary from her job as a teacher's aide.

In the following months, Mary was sick frequently. In addition, she found out she was pregnant with twins. One of the twins died in utero, a result of the strains on Mary, according to her doctors. The other contracted bacterial meningitis soon after birth. The medical bills for Mary's and the baby's illnesses, food, and housing expenses soon depleted the family's savings. Desperate, Mary turned to public safety net programs to supplement her small earnings. She was approved for WIC (the federal special supplemental food and nutrition program for Women, Infants, and Children), $770 a month in Social Security survivors benefits, and a tiny $11 monthly food stamp allowance. But she was denied welfare and Medicaid because her income, low as it was, put her above the eligibility threshold.

By early 1986, the family was living on the edge, stretching to make ends meet on $165 a month after paying the rent. "There were times when money ran short and we had no food," says Mary. WIC helped but was not enough. "There were . . . times when my son would say, 'Mom, I know you just fed me, but I'm still hungry.' That hurt me more than any knife or sword could because there was no food in the cupboard to feed him."

By 1990, there was a little more money to go around. The family's Social Security benefits had been raised to about $900 a month, and the rent burden of the family was lower, thanks to a government housing subsidy. Still, Mary and the boys are nowhere near having financial security.

Looking back, Mary says, "Has hunger hurt my boys? Yes." Justin, the older son, is slower to learn in school and not as easy-going as most other children — a result, Mary feels, of inadequate nutrition and the strains of growing up poor.

From Mary Tamper's testimony before the U.S. Senate Committee on the Budget February 1990

Chapter 2

Can Ending Poverty Really Help?

It is easy to see that poor children face an onslaught of terrible odds. But how much of these unfair odds is caused by poverty itself? Put differently, how much would ending poverty help?

The question is important because in theory, poor children's worse odds might result solely from causes other than their parents' inadequate jobs and incomes. Many Americans wonder whether poor parents' generally worse education, not their poverty, is to blame for poor children's worse outcomes. Others claim that welfare, not poverty, is entirely to blame. Others blame single parent families. Some speculate about character flaws that they attribute to the poor.

But the best scholarly evidence indicates that poverty does matter for children. Past antipoverty experiments have shown that lifting children out of poverty does indeed help them to succeed in crucial ways, such as allowing them to stay in school rather than going to work at an early age.

Moreover, a growing body of research has investigated many of the specific doubts about the impact of child poverty — probing one by one through the alternative explanations for poor children's bad odds — and found the doubts to be partly or completely wrong. Poor children in these studies fare worse in ways that simply cannot be attributed to real or imagined deficiencies in poor families' school completion, single parenthood, racial composition, or reliance on welfare. Nor can poor children's bad odds be seen simply as the inevitable result of hidden character flaws or inadequacies that some believe are inherent in poor families.

1. Antipoverty experiments in the 1970s helped children stay in school.

A series of federally funded experiments in the 1970s showed that offering families an above-poverty income can have important positive effects, particularly on children's school enrollment and school completion.

Effect on School Enrollment

In the Seattle and Denver Income Maintenance experiments (SIME/DIME) of the 1970s and early 1980s, families were split at random into groups, some of which were offered a guaranteed minimum income worth up to several thousand dollars per year in today's dollars. One study tracked the school enrollment status of more than 2,000 participating youths ages 16 to 21. Receiving a guaranteed income for at least 18 months significantly boosted the enrollment rates of these youths — to 51 percent compared with 42 percent among the control group. The large size and relatively long duration of the study make these powerful impacts especially convincing.

Effect on School Completion

Likewise, an earlier experiment, which operated from 1968 to 1972 in New Jersey and a small corner of Pennsylvania, split a

group of low-income families into several smaller groups and guaranteed some of them an above-poverty income. A study of 16- and 17-year-olds living in these families estimated that after three years in the experiment, those who were guaranteed an above-poverty income (plus additional incentive payments if their parents worked) finished an average of 0.37 year more education than did those without the guarantee. Although the small size of this study (138 youths in total) limits the reliability of some of the findings, the results appear to be generally consistent with the findings from SIME/DIME.

Other income maintenance experiments from that era had generally positive but often inconclusive results for children's birthweight, nutrition, school attendance, grades, and other outcomes. No similar experiments were conducted after the early 1980s.

2. Potential scapegoats — such as high rates of single parent families among the poor — do not account for the reduced education and ill health of America's poor children.

Newer studies are helping to update, broaden, and solidify the evidence that poverty hurts key areas of children's development. Testing skeptics' theories in ways never previously possible, the studies rule out widely held beliefs about the reasons for poor children's worse odds. Drawing on new data from several large multiyear surveys of children's development, researchers are increasingly able to probe — and refute — the doubts about child poverty's effects.

Why one baby can't go home from the hospital

Joanna, age 1, is the second daughter of hard-working migrant farmworkers. Joanna was born with a congenital heart defect and has spent the majority of her infancy in a highly specialized pediatric hospital in Seattle, Washington. Her parents make repeated trips from their rural farming community, traveling on snowy, icy roads to spend days at her side.

Ironically, Joanna could have been discharged safely long ago — except for her family's poverty. According to her nurse, "Joanna's home is the best her parents can afford, but it is inadequate to support her because Joanna's delicate cardiopulmonary system is vulnerable to repeated bouts of pneumonia and the ever-present threat of deterioration.

"There is no doubt in my mind, as her pediatric nurse practitioner, that her parents could provide more developmental, emotional, and physiologic support for this child than we are capable of. However, they must be given the stability of a home with guaranteed heat, light, and safety — a few steps beyond survival living."

Warm, adequate, middle-class housing, observes Joanna's nurse, would help Joanna more — and would cost society less — than the tens of thousands of dollars needed each year to keep a child like Joanna in a hospital room.

The Strong Independent Effects of Poverty

The new studies show that inadequate family income is rarely if ever the sole cause of the gaps between poor and non-poor children's risks of disease, school problems, or other bad outcomes. In most cases, however, poverty continues to have a strong effect of its own.

For example, about half of long-term poverty's estimated effect on children's reading, math, and vocabulary scores in one nationwide study could be attributed to nonfinancial disadvantages observed among the poorer families, such as poor mothers' own generally lower test scores. The remainder appeared to be the consequences of poverty itself.[12]

Similarly, in other studies, long-term family income lost about one-third to one-half of its apparent effect on a child's eventual years of completed schooling, teen unwed parenthood, and own wages and incomes as a young adult, once a long list of observed family differences, including parents' marital status and education, race, and age of the mother when the child was born, was taken into account.[13]

In each of these studies, a sizable portion of poverty's effects remained. These remaining effects showed that poor children have disadvantages that are not related to their greater likelihood of living in a single parent home, or their race, or their parents' lower education levels.

Several studies also ruled out other possibilities — showing that the worse odds were not simply the result of poor parents' lower IQ scores or limited academic and life skills. Nor were they due to differences in parents' religion or to unhealthy behavior such as smoking or drinking during pregnancy.[14] These findings further strengthen the evidence that poverty does matter and has sizable effects that cannot be explained away.

Nor do the purported ill effects of welfare explain why poor children do poorly in school. Researchers report that each year spent growing up in poverty is equally harmful to children's chances of finishing high school on time, regardless of whether or not the family received welfare benefits in that year.[15]

Long-term income lost only one-fifth of its relationship to stunted growth once these family characteristics were taken into account. Likewise, after adjusting for differences in family structure and race, poverty lost one-fifth of its relationship to children's odds of being reported in fair or poor health.[16] (These health findings for U.S. children contrast with widely reported studies of childhood poverty in Quebec, Canada, and young adult poverty in Wisconsin, which found no poverty effects on later health, death rates, anxiety, or hyperactivity.)[17]

Among White women who gave birth, the odds of having a low-birthweight baby were 136 percent greater for those who were poor when they became pregnant. Even after researchers adjusted for poor mothers' differences in education, marital status, age, number of births, and smoking habits, the odds of low birthweight among White infants were still 80 percent higher. Among Black women, however, the independent effect of poverty on low birthweight was smaller and was not statistically reliable.[18]

Importantly, researchers Greg J. Duncan

and Jeanne Brooks-Gunn note that across a range of outcomes, "increasing the incomes of children below or near the poverty line seems to have a bigger impact on ability and attainment than increasing the incomes of children in middle-class and affluent families."[19]

Summarizing recent child poverty research, Eugene M. Lewit and colleagues noted: "Almost no one believes that money and/or the material resources money can provide do not matter to children,"[20] particularly at the lowest levels of income. Above a subsistence level, moreover, "income seems to have a larger, more consistent independent effect on some outcomes (such as school achievement in the early grades) than others (such as teenage childbearing). . . Income seems to be strongly related to children's physical health, cognitive ability, and school achievement in the early grades even after controlling for a number of other parental characteristics."

Lewit and his colleagues also noted, "These effects of income are most pronounced for children who experience persistent and extreme poverty."

3. New studies rule out character flaws and other hard-to-measure traits.

A few new studies have sought to go further and take account of possible hidden or hard-to-measure nonfinancial differences between poor and nonpoor families as well. These analyses continue to show that for a number of crucial outcomes such as education and earnings, poor children face worse odds that cannot be blamed on parents' purported "character flaws," lack of parenting ability, or other unchanging traits inherent in poor families themselves.

Some of the clearest findings from this type of study concern children's schooling and later earnings. Recent analyses have found that income differences have strong effects:

- on schooling even between siblings within the same family;
- on schooling that are unrelated to any parental traits that last after the child is grown; and
- on earnings that are unrelated to any parental traits that last after the child is grown.

One recent study relied on fluctuations in families' incomes over time to show that income differences affect education differences between siblings.[21] Brothers and sisters born into the same family at different times have overlapping but often quite different family income experiences. The sibling who grew up when the family's income was higher tended to finish more schooling, according to Duncan and colleagues.

Income differences mattered as much between siblings as they did in a more conventional analysis. The authors found that these and other findings support the conclusion that "policies that raise the incomes of families will enhance the abilities and attainments of children."

Similarly, another sibling study, which examined data from a different nationwide survey, again concluded, "Income is shown to have large effects" on schooling.[22]

In still another analysis, Susan E. Mayer found that the effects of parental income on children's education are not in fact due

to hidden parental traits such as "character flaws" or ill health that persist after the child is grown.[23] Mayer also looked at boys' later earnings in their early adult years. Here too she found that the effects of parents' income were not due to hidden traits.

All of these findings show that family income's lasting effects on education and earnings are not the inevitable result of traits that some Americans feel are inherent in poor families — traits such as low motivation, irresponsibility, low intelligence, or inherently poor child-rearing ability. These and other unchanging family traits cannot explain why income differences between siblings or income differences unrelated to parents' stable traits appear to influence children's well-being so powerfully.[24]

Mayer's results for education and earnings are especially noteworthy because she is generally skeptical about the importance of income for children. Mayer argued that researchers should pay more attention to the possibility that hidden nonmonetary advantages in richer families might in part explain why their children fare better than poorer children on many outcomes.[25] She has presented evidence that income's effects on certain child outcomes (such as becoming a teenage or unwed parent) may have been overstated in some past research, possibly because of the effect of unmeasured family traits.[26] Nonetheless, Mayer concluded that poor families' would-be "[stable] unobserved traits have little effect on educational attainment, men's wages, or men's earnings."[27]

Very few medical studies have tried similarly to test the link between child poverty and illness by seeking to account for possible unmeasured differences between families with differing economic resources. One exception is a 1993 study linking children's anemia to their families' economic resources — in this case, whether they received public rental assistance.[28] Doctors in Boston took blood samples from 503 low-income young children and contrasted those whose families received public rent subsidies with otherwise-similar children on a waiting list for rent subsidies. The odds of anemia were 80 percent higher in wait-listed families, although this difference was only marginally statistically reliable.

Rent subsidies, when available, free up a large portion of poor families' tight budgets to buy more food.[29] The Boston researchers concluded that for families without rent subsidies, budget pressures — including the high cost of housing — may lead to insufficient iron intake and anemia in young children. The comparison is convincing because the group of families that receives rent subsidies seems likely to closely resemble those on the waiting list and have few hidden advantages over them.[10]

In summary, the best available research shows that poverty appears to harm children's health, education, and later earnings. Poor children's worse odds are not just a symptom of single parenthood, parental skills, or other observable differences between poor and nonpoor families. Nor it seems can they be explained away by unmeasured but stable family differences, including character, low parent IQ, or inadequate parenting ability.

More research is needed to answer lingering questions, but for now research leaves little room to doubt that poverty truly harms children. ■

Chapter 3

Economic Costs of Children's Poverty: Updated Estimates

Children themselves are child poverty's first and most important victims. They pay a larger and more personal price than anyone else. But children are not the only ones to suffer. In the end, everyone pays the costs of child poverty.

- **Schools pay** when poor children need special education or must repeat a grade.
- **Businesses pay** when poor children grow up to become less educated, less productive workers — workers who require more training, who cannot work as fast or cannot learn new machinery and new techniques quickly, who cannot read and understand a manual, or who make costly mistakes with customer orders or valuable equipment. Even when companies try to balance these costs by paying lower wages, costs spill over, making it harder, for example, to modernize and increase productivity.
- **Consumers pay** when higher business costs and lower productivity are passed on to them in the form of higher prices, more limited selection, or lower quality goods and services.
- **Hospitals, insurers, and social services** agencies pay when a poor child suffers mental and physical disabilities that require costly care.
- **Property owners pay** if a poor child grows up to steal or vandalize.
- **Citizens pay** if a poor child grows up to be violent.
- **Society pays** police, prosecutors, courts, and prisons to catch, prosecute, and lock up offenders.
- **Taxpayers ultimately pay** for all of these losses — in higher expenditures on social services, medical care, criminal justice, and cash assistance in future generations, or in the diversion of government attention and resources from other pressing needs such as maintaining good schools and establishing preschool services. Taxpayers also pay higher tax rates to compensate for lower contributions from those whose earning potential has been shrunken by poverty.

Most of these costs have never been quantified. As a result, the extent of their drain on society's resources remains unknown and largely ignored in public debate about economic and social policy.

To begin quantifying just one of the bottom-line costs of child poverty — the cost of lost future productivity among children who grow up in poverty — CDF made a series of estimates in 1994 under the supervision of a group of leading scholars led by Nobel Prize–winning economist Robert M. Solow of the Massachusetts Institute of Technology. With their guidance, CDF focused on just one of poverty's many costs, the effect on the economy of

lost wages and lower productivity."

Productivity refers to the value of what a worker makes or does per hour of work. To estimate lost productivity, CDF relied on the standard economists' assumption that changes in wages are generally equal to changes in productivity under certain conditions.

CDF has updated the original estimates to 1996 dollars, based on more recent earnings and poverty data, and has incorporated minor methodological improvements suggested by some of the nation's top economists.

The new projections indicate that for every year 14.5 million American children continue to live in poverty:

- **Society will lose a total of $130 billion in future economic output**, mirroring these children's projected lost lifetime work hours and lower hourly wages. Conversely, ending a year of child poverty is projected to save $130 billion.
- **Lost years of schooling alone will cost society $26 billion in lost productivity over the lifetime of these poor children**, as they grow up to be less educated, less productive workers. Conversely, ending a year of child poverty is estimated to save society $26 billion. It is no surprise that this figure is so much lower than the total labor market cost of poverty, as it represents only the slow-down in the workplace that is projected to result from poor children's lost years of education. Thus, the estimate does not include other ways that poverty can limit productivity on the job — such as by limiting how much children actually learn during their time in school, how healthy and motivated they are, or how good their interpersonal skills are. The estimate also ignores the effect of poverty on reduced weeks and hours of employment.

By contrast, poor families with children needed $39 billion in 1996 to bring their incomes up to the poverty line, according

The legacy of lead poisoning

Lana had been worried for a long time about the lead-based paint in her Holyoke, Mass., apartment hurting her three children's health. She wanted to move but with welfare her only source of income, she didn't have the money. When her 1-year-old twins tested positive for lead poisoning in 1982, she ditched her fears about money, packed up her children and belongings, and left. For the next three months, Lana and the children were homeless.

With help from the Care Center, a local education and support program for young mothers and children, Lana eventually became employed and gained a measure of economic security. She successfully sued her old landlord on behalf of one of the twins, who suffered lasting health and learning problems from the lead poisoning and has needed special education since he started school. But none of that can reverse her son's brain damage. Now 13, the boy has speech difficulties and problems with memory loss that doctors say will plague him for life.

One example of the costs of child poverty: $492 million from lead poisoning alone

Lead poisoning is one of the most potent health risks children face, affecting an estimated 2.5 million children below age 12 — including more than one in four Black children younger than 6.[32] Studies have linked prenatal lead exposure with low birthweight, stunted growth, hearing loss, and damage to children's blood production and kidney development.[33]

In one study, lead-poisoned children:

- were seven times more likely to drop out of high school.
- were six times more likely to have a reading disability.
- had significantly lower IQ scores, attendance rates, class rank, and vocabulary test scores.[34]

Lead exposure also is associated with attention deficit disorder, hyperactivity, delinquency, aggressive and antisocial behavior, and later crime.[35]

Low-income children below age 5 are four times more likely than children in high-income families and three times more likely than children in moderate-income families to have dangerous lead levels in their bloodstream.[36] Lifting families out of poverty would enable their parents to afford measures to reduce their children's harm from lead exposure, such as:

- Improving children's nutrition. Adequate levels of iron, calcium, and other nutrients greatly reduce the absorption of lead into the blood.[37]
- Moving into newer or better maintained homes.
- Testing paint and water for lead.
- Buying filters to remove lead from tap water.
- Regularly repainting and cleaning homes to reduce the dust from old layers of lead paint.
- Saving toward the high cost of lead paint abatement.

Some of the costs of lead exposure can be estimated reliably. According the U.S. Department of Health and Human Services, each additional unit of lead detected in a child's blood will cost an average of $1,147 in lost lifetime earnings.[38] Using this estimate and adjusting to 1996 dollars, CDF calculated that each year poor children's lead levels are reduced to those of similar children slightly above the poverty line would save $492 million in future lifetime earnings alone.[39]

If savings in other areas — including crime, health, special education, infant mortality, and neonatal care — were included as well, this figure would be even higher.[40]

to Census Bureau figures. In practice, the budgetary costs of ending poverty would greatly exceed this amount. A realistic program might easily cost the government substantially more once administrative expenses, incentives to keep families working, and other costs were accounted for. On the other hand, a well-designed antipoverty program would create many additional benefits to society by putting poor jobless parents to work filling important unmet needs.

Is it realistic to think that boosting family income would help the economy grow faster? Many leading economists consider it a fact. Noting that the bulk of U.S. economic activity is attributable to workers rather than machines, econometricians have found that families' investments in the quality of their children's upbringing constitute a major contribution to the nation's future work force.

In fact, economist John W. Kendrick found that the payoff from spending on a broad range of human capital items — ranging from schools to the amounts that families spend on their children — is at least as great as the payoff from conventional capital investments like machinery.

"In business cycle peak years," according to economist John Mueller who has summarized Kendrick's findings, "the real rates of return on net capital in the business economy averaged about 12.5 percent for human capital and 10.4 percent for nonhuman capital."[4]

Can ending child poverty really improve children's education as much as CDF projects?

Results from the New Jersey Income Maintenance Experiment suggest that it can. In fact, the New Jersey impacts — an additional 0.37 year of schooling for three years of poverty reduction, equivalent to 0.12 year of schooling per year lifted from poverty — were even larger than those CDF used in its cost projections. This suggests that the cost estimates CDF calculated are conservative.

What do these figures mean? The projections show that today's poor children will be paid less because they will produce less — unless America intervenes to stop poverty now.

From one perspective, the figures represent the lost future wages of children who are growing up poor today.

From another perspective, reduced future productivity means that businesses will find it more difficult to hire the skilled workers they need.

From still another perspective, the figures show the value of goods and services that businesses and consumers will be forced to forgo because the productive capacity of the work force has been needlessly cut.

Even more, the lost wages shown here will perpetuate poverty in future generations by diminishing the ability of today's poor children to provide adequately for their own children tomorrow.

From any vantage point, they depict the needless whittling away of these children's economic talent and potential, their capacity for contributing their best work to their employer, their team of coworkers, to the families they support, and to society as a whole.

In short, poverty steals not only from poor

How the estimates were calculated

The cost projections in *Poverty Matters* are updates of figures originally presented in the 1994 Children's Defense Fund book, *Wasting America's Future*. Those figures were based on findings commissioned by CDF from leading researchers and assembled under the supervision of a team of top scholars led by Nobel Prize–winning economist Robert M. Solow.

CDF has updated its earlier estimates to reflect the latest child poverty data and information about lifetime earnings in 1996 inflation-adjusted dollars. For this estimate, CDF also made conservative assumptions especially concerning which group of children's lifetime earnings should be used as a starting point for our analyses: in this revision, individuals with postsecondary education are excluded from our earnings baseline.

$130 billion total labor market effects

For this calculation, CDF commissioned University of Michigan researchers Mary Corcoran and Terry Adams to directly measure the relationship between the proportion of childhood spent poor and an individual's later annual earnings at ages 25 to 34.

From these results, CDF determined that each year of poverty leads to a reduction of roughly 2.5 percent in earnings for young men and 1.65 percent for young women. It is not known whether these impacts will fade, remain the same, or continue to grow stronger as young adults grow older; CDF has assumed that these percentage losses will remain the same throughout a child's work life.[42] Based on the revised baseline earnings estimates described above, this implies a lifetime loss of $130 billion in earnings and, by extension, a loss to the economy of $130 billion in goods and services that will not be produced because of child poverty.[43] The 90 percent confidence interval around this estimate is plus or minus $60 billion.

$26 billion from school completion effects alone

This estimate includes only the future labor market costs resulting from the lost years of education associated with poverty. Each year a child spends in poverty is associated with a loss of about 0.045 year of schooling, according to calculations commissioned by CDF from economists Robert Haveman, Barbara Wolfe, and Donna Ginther of the University of Wisconsin.

In turn, this loss of education will have a predictable effect on a low-income child's hourly wage levels later in life: experts report that each year of school boosts hourly wages for such children by about 10 percent.[44] Applying these figures to revised 1996 data on children's baseline lifetime earnings, CDF now estimates that each year that 14.5 million children spend in poverty will cost the economy $26 billion in lost future productivity

due merely to poverty's effects on completed schooling.[45] The results, however, were somewhat sensitive to the specifications and assumptions used.[46]

Inevitable uncertainties about the assumptions behind these estimates mean that the true impacts could be even higher, or lower, than these ranges. A variety of questions — such as whether and how the value of education will change over time — cannot be answered without more information.[47] Nonetheless, the figures shown above represent a best estimate of the labor market costs of child poverty that are based on data presently available.

How lifetime earnings were calculated

CDF's updated estimates of lifetime earnings are based on 1996 Census Bureau data on average annual earnings by age. CDF also revised the group whose earnings were used as the baseline: poverty's proportional effects on earnings are now applied to the total dollar earnings, not of all Americans, but only of those who do not finish any postsecondary education. We are grateful to Lawrence Katz of Harvard University for suggesting this change. The analysis also accounts for the proportion of people at each age who have no earnings based on Census data or have died based on National Center for Health Statistics life tables for 1992. Finally, we assumed that there will be a 1 percent annual economy-wide growth in productivity and earnings. CDF estimates that future lifetime earnings of noncollege Americans will be $541,686 for men, $253,410 for women, and $404,614 for men and women averaged together. All amounts are in constant 1996 dollars.

'Present value' adjustment accounts for the public's diminished concern about delayed impacts.

Voters, consumers, businesses, and investors usually care somewhat less about future economic impacts than about impacts that occur today. This is partly because money held today can be invested at a profit, while money held tomorrow cannot. To accommodate this preference, the projections shown above have been adjusted downward to their "present value" using a standard economists' formula. Specifically, CDF shrank the estimates using a "discount" rate of 3.6 percent per year above and beyond the effects of inflation, as recommended by the U.S. Office of Management and Budget. Without this adjustment, the estimates would have been more than twice as large as the amounts shown. This adjustment is not the same as adjusting for inflation.

children but also from every individual in society who might hire them, work alongside them, or purchase something from the companies where they are employed.

The eventual loss to the economy of as much as $130 billion for every year of child poverty is not trivial. This amount is:

- more than twice as large as the U.S. annual trade deficit with Japan in 1996.
- larger than the nation's 1996 automotive and semiconductor exports combined.
- larger than the entire U.S. agriculture industry in 1996.

Finally, it is worth emphasizing that the labor market costs shown above represent just a portion of child poverty's cumulative potential costs to society. They do not include such added costs of poverty as repeated years of schooling, special education, chronic health care expenditures, or crime. Nor do the estimates include the tragic loss of human and economic potential associated with deaths resulting from childhood poverty or the multigenerational effects of poverty that threaten to erode the income, education, and health of the next generation of parents, and so shape the childhoods of their own children. ■

Mounting problems and what they cost

Sam and Sarah, an Indiana couple, could not afford prenatal care. Their son Josh was born two months prematurely and was subject to chronic ear infections. When Amy was conceived, Sarah and Sam's relationship deteriorated, and Sam left the state.

Sarah applied for food stamps and Aid to Families with Dependent Children (AFDC), which provided assistance but left the family far below the poverty line. She had to make difficult choices among food, housing, clothing, and incidental expenses for her children.

At the grocery store in the winter of 1980, 3-year-old Josh pulled a jar out of a display and a pyramid of grape jam toppled over on him, breaking half the items on display. The storekeeper insisted that Sarah pay for the damage, which amounted to $27. This represented a sizable portion of her monthly income. Sarah paid for the damage at the expense of Amy's diaper budget. After Sarah rationed Amy's disposable diapers, Amy developed a diaper rash, which became infected. Amy was unable to sleep and developed a fever. Concerned, Sarah took both children to the public health clinic.

The nurse who examined Amy was legally compelled to report the child's condition to the family's welfare caseworker. Josh was rambunctious in the doctor's office. Tired, overwhelmed, and angry with Josh, Sarah lost control. She slapped Josh in the face and blamed him for her current situation.

An inexperienced, newly hired caseworker was assigned to investigate the referral from the nurse. The rural county welfare department did not have sufficient staff to keep up with the high volume of referrals. Unable to monitor Sarah's situation, the caseworker recommended temporary foster care. The court removed both children to a foster home 30 miles away. The new caseworker could provide transportation for monthly visits only.

Separated from their mother, the children stayed in foster care for years. Total foster care expenses for both children grew to an estimated $104,000. Josh never adjusted well to his foster placements. He became delinquent and required an additional estimated $58,400 for a detention center and residential care.

Josh's latest caseworker reported that he met the profile of many children who pass through the child welfare system. "Prognosis for the future is poor. If his behavior doesn't improve, Josh will likely spend as much time incarcerated in the adult correctional system as he will on the streets"—at an estimated cost of $25,000 per year of incarceration.

Adapted from Indiana Youth Institute Occasional Paper No. 1, 1991

Chapter 4

Why Does Poverty Hurt Children?

In this prosperous nation, it is sometimes hard to picture why a secure family income matters. What could more money buy for a typical poor child in America that middle-income children rarely do without?

For some poor children, the answer is nutritious food. For others, it is safe shelter. For others, a children's book and a quiet well-lit room where they can learn to read it. Or a functioning car that carries them to a dependable child care center or a doctor's office, or to a music lesson or sports practice if they're older. Or just the quiet home and peace of mind that allows a parent and child to spend attentive time together, playing, talking, or listening.

Thanks to their parents' incomes, most American children are sheltered from hunger. They do not live with crumbling plaster and rats in their bedrooms, in small apartments crowded by people saving on rent. They do not skip breakfast from necessity or shirk English class because they cannot afford new notebooks. They do not fall hopelessly behind in high school for lack of new eyeglasses to see the blackboard or drop out in order to earn a few extra dollars for their families. They do not give up on ever having careers because they see no hope of going to college.

Why Does Growing Up Poor Matter?

Rather than a single answer, research suggests a cascade of reasons — some large, some small, but so many and so varied that virtually no corner of a poor child's life is entirely safe. Together they add up and multiply to fill a child's life with heightened barriers, narrowed horizons, and deepened risks.

Figure 1 shows just some of the detailed reasons why low income appears to hurt children. Each of the arrows in the diagram represents a risk factor that is documented further in *Wasting America's Future*.

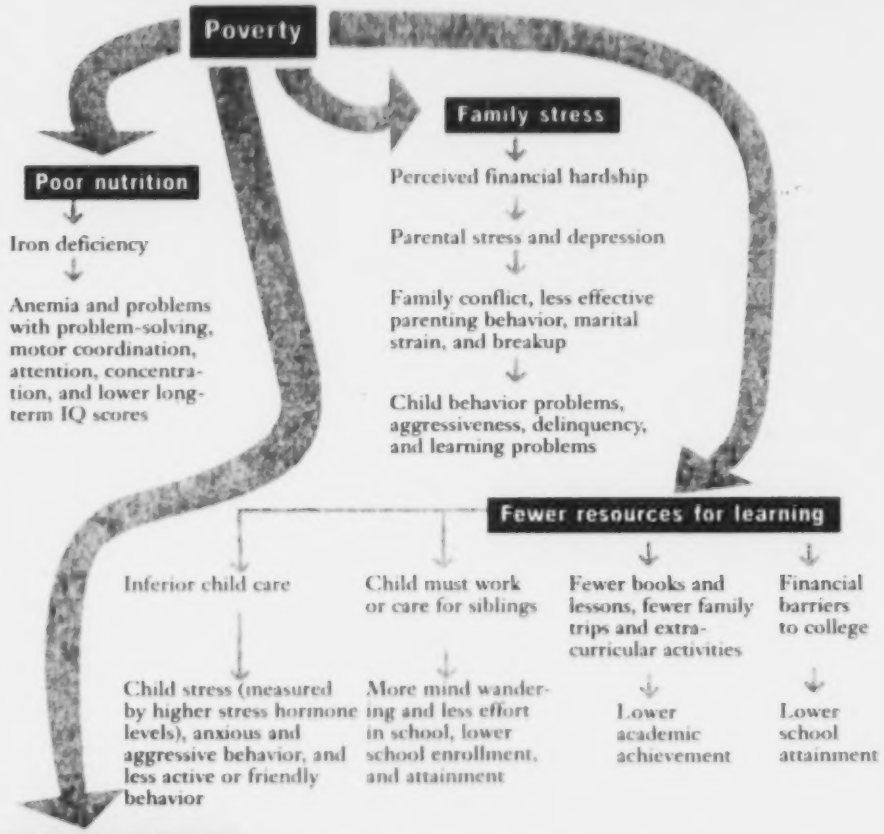
More Stress, More Conflict

For example, stress and conflict related to low income can undermine the strength of a family. Lower income parents report feeling more economic pressure, argue more about money, and use more harsh and inconsistent discipline with their children. These family effects can account for most of the association between low income and bad grades in school, according to a study of Iowa 10th-graders and their families.[48]

Economic strain can even result in family breakup. Poor married parents not only argue more but they also break up at twice the rate of nonpoor families. During recession years, moreover, children enter mother-only families at twice the rate of nonrecession years. Growing up in a single parent family is associated with psychological, behavioral, and other problems later on.[49]

Figure 1

Examples of documented pathways from poverty to adverse child outcomes


Poverty
Poor nutrition
Iron deficiency
Anemia and problems with problem-solving, motor coordination, attention, concentration, and lower long-term IQ scores
Family stress
Perceived financial hardship
Parental stress and depression
Family conflict, less effective parenting behavior, marital strain, and breakup
Child behavior problems, aggressiveness, delinquency, and learning problems
Fewer resources for learning
Inferior child care
Child must work or care for siblings
Fewer books and lessons, fewer family trips and extra-curricular activities
Financial barriers to college
Child stress (measured by higher stress hormone levels), anxious and aggressive behavior, and less active or friendly behavior
More mind wandering and less effort in school, lower school enrollment, and attainment
Lower academic achievement
Lower school attainment
Housing problems
Homelessness
Frequent moving
Utility shut-offs
Water leakage
Peeling paint, falling plaster, and fewer opportunities to clean and repaint
Infant mortality, chronic diarrhea, asthma, delayed immunizations, family separation, and missed school
Not completing high school
Home fire deaths
Mold and cockroaches
Asthma
Lead poisoning
Low birthweight, hearing loss, brain and kidney damage, reading disability, lower IQ scores, dropping out of school, and attention deficit and hyperactivity disorder

Source: Children's Defense Fund. (1994). *Wasting America's Future*. Boston, MA: Beacon Press.

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Limited Learning Opportunities at Home

Nationwide interviews and in-home observations have found fewer learning materials, strained parent-child interactions, and physical problems such as bad lighting in poorer children's homes. A composite measure of these differences can account for about one-quarter to one-third of the lower reading, math, and vocabulary scores among poorer preschoolers and elementary schoolchildren, scholars Greg Duncan and Jeanne Brooks-Gunn have noted. Previous research in Atlanta had found that disadvantaged children had fewer books or computers and were less likely to attend camp, have athletic or music classes, or go on family trips; each of these shortfalls was related to lower academic achievement.[50]

Lower Quality Child Care

Good quality child care centers charge an average of $4,800 a year for a 4-year-old in full-time care, according to a 1990 government study.[51] This is more than half of the income of the average poor family with children and far above what poor families can afford to pay. As a result, many low-income children wind up in low-quality care that offers them few opportunities for learning.

"A sizable minority of care arrangements available to low-income children falls into a range of quality that some conclude may compromise development," warned the National Academy of Sciences.[52] One government study found that "child care homes where poor infants were cared for . . . provided relatively few social and environmental supports for the children's development" compared with homes that cared for nonpoor children.[53]

Poor Nutrition

Figure 1 also traces some the results of inadequate nutrition. One is higher rates of iron deficiency among poor children. Low iron is associated with lifelong learning and behavior problems, such as lower IQ or showing signs of depression years later. Iron deficiency is also the major cause of anemia, which means the blood cells cannot carry enough oxygen throughout the body. More than one million low-income young children have anemia, which is a strong predictor of learning and behavior problems later on.[54]

Bad Housing

Other problems stem from bad housing (see Figure 2). For example, faulty pipes and other water leakage (affecting 22.5 percent of poor children in 1989 compared with 14.5 percent of the nonpoor) can result in mold and roach infestation. These in turn cause many children to develop respiratory diseases (like asthma), which are the major chronic diseases causing children to miss school.[55]

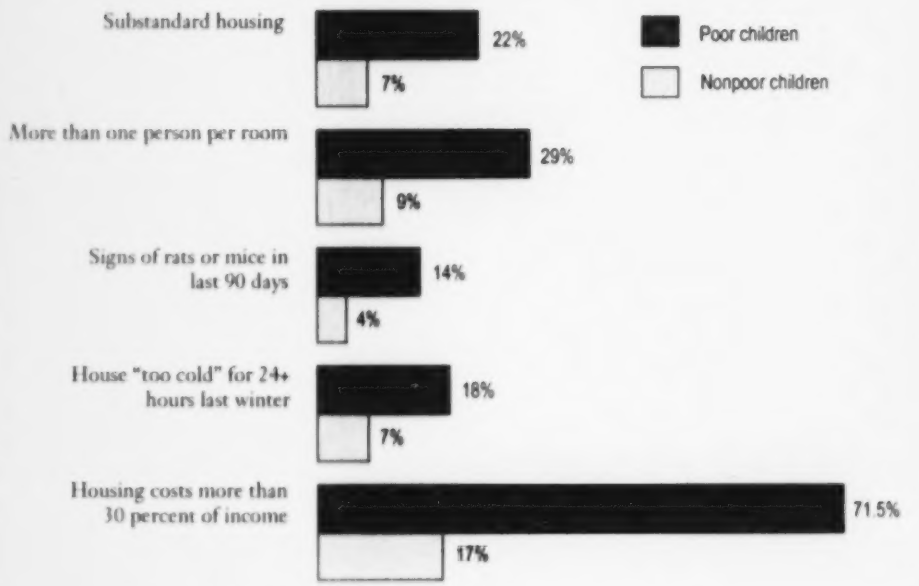
Lead Poisoning

Low-income children also have more than triple the risk of lead poisoning, which causes neurological damage and has been linked to lower IQ and long-term behavior problems, ranging from inability to concentrate to violent behavior such as attacking teachers with knives or scissors.

Many poor families cannot afford to test their homes for lead paint or to move into a safer home. Nor can they afford to maintain their homes and have them repainted.

Figure 2

Housing conditions of poor and nonpoor children



Source: Children's Defense Fund tabulation of 1989 American Housing Survey data.

Consequently more old lead paint is exposed, and gradually it comes off the walls as dust. Children who get the dust on their fingers and eat it are poisoned. (See One Example of the Costs of Child Poverty on page 16.)

Unaffordable Housing

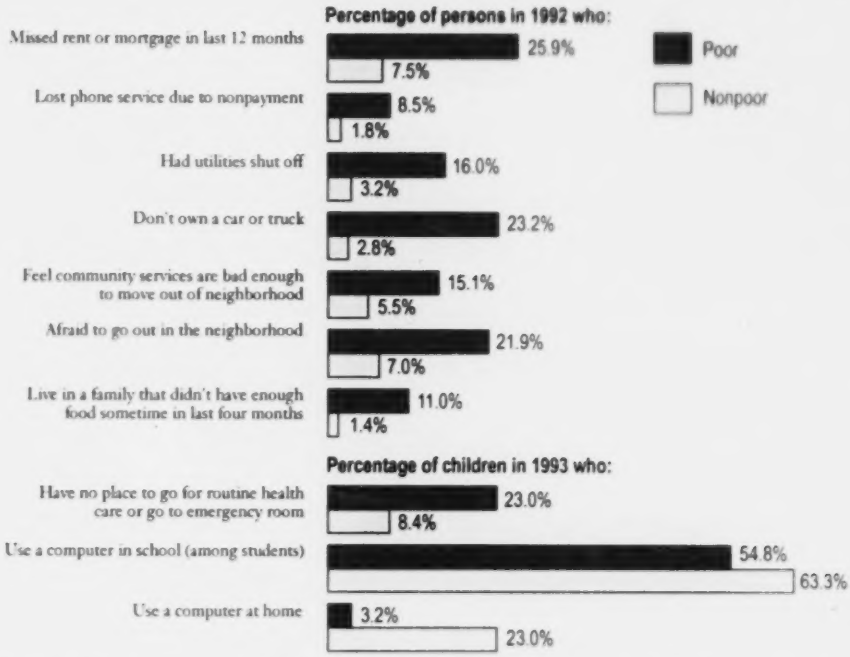
Housing affordability problems can likewise have serious consequences (see Figure 3). Nearly three out of four poor families with children cannot afford their rent or mortgage and utility payments based on federal housing affordability guidelines. These guidelines specify that no more than 30 percent of income should be spent on housing, in order to leave money for food and other needs. Inability to afford housing and utilities is one reason why poor families move frequently from home to home and from school to school, as parents are forced to seek cheaper housing, double up temporarily with friends and family, or try to stay ahead of eviction notices and bill collectors. Children who move and change schools tend to have lower math and reading scores and are significantly less likely to finish high school on time.[56]

Homelessness

The worst housing affordability problems result in homelessness. In 1995, for example, nearly one in 10 poor young

Figure 3

Living conditions of persons in poor and nonpoor families



Source: Federman, M., et al. (1996). What does it mean to be poor in America? *Monthly Labor Review, 119*, 3-17. Data are from the 1989-1990 National Maternal and Infant Health Survey, 1993 National Household Education Survey, and 1992 High School and Beyond Survey. The researchers represent a number of federal statistical reporting agencies.

children in New York City spent time in the city's public homeless shelters — a higher proportion than any other age group. Children who become homeless are exposed to the communicable diseases and chaos found in shelters and suffer increased infant mortality, chronic diarrhea, asthma, delayed immunizations, family separation, missed school, and other damage.[57]

Fewer Transportation Options

Even tasks as simple as looking for a job, shopping for cheaper food, or bringing a child to sports practice or well-child checkups are more difficult in poverty. Poor families are eight times more likely than the nonpoor to have no car or truck (23 percent versus 3 percent in 1993).

Greater Isolation

Many poor families have no telephone (23 percent versus 3 percent in nonpoor families in 1992). Even cashing a paycheck can be costly for poor families, who may have to rely on expensive check-cashing establishments because they cannot afford

the transportation to a bank or the minimum monthly balance required to maintain a bank account.

Brain Development and the Early Years

Duncan and Brooks-Gunn have noted that young children may be particularly vulnerable to some of poverty's enduring effects. In a study of how many years of education children eventually complete, they found evidence that family income matters much more during the earliest five years of childhood than in middle or late childhood.[18]

The findings appear to be consistent with recent research emphasizing the long-lasting importance of children's early brain development. Some experts believe that poverty-related problems — such as lack of stimulating opportunities for infants and toddlers to learn in the home or while in child care, poor nutrition, or stressful family and child care situations — may contribute to understimulation, elevated levels of stress hormones in the brain, or other problems that in turn may interfere with some poor children's early brain development.[19]

Problems That Add Up and Interact

Picture a seventh-grader struggling to do well in school. Perhaps child poverty means she cannot concentrate properly on her homework one night because the power company has shut off the lights. The next night she cannot concentrate because she's hungry. The night after that she cannot concentrate because people are shouting and arguing in her crowded apartment building. The next night she cannot concentrate because her brother's asthma has flared up and the family must make a long nighttime trip to the emergency room by bus. By the end of the week, she is tired and has fallen further behind in her studies.

Respiratory problems and bad housing

When 5-year-old Jose and his 3-year-old sister Maria suddenly developed breathing problems, their doctor was puzzled. The usual medical treatments didn't work, and the symptoms persisted even after their mother followed instructions to rid the apartment of rugs, dust, and cockroaches. The pediatrician initially disregarded the mother's frustration with her neighbor's smoking — until she realized that the smoke flowed right into the family's apartment through a large hole in the living room wall.

From Not Safe at Home: How America's Housing Crisis Threatens the Health of Its Children
The Doc4Kids Project, Boston Medical Center and Boston Children's Hospital

The number and breadth of problems assailing poor children wears down their resilience by forcing them to fight battles on many fronts at once. A child with a wealth of resources can absorb a minor illness or other setback and then compensate or catch up. But for poor children who are faced with more setbacks than other children, the cumulative weight of assaults can be overwhelming.

Some experts believe that the number of setbacks a child suffers often matters as much or more than what the setbacks are (see Figure 4). In one study, for example, more than half of adolescent delinquents

and half of adolescents with severe mental health problems had grown up with five or more separate setbacks — such as being born to a poor family, having health problems at birth, having unmarried parents, and having a low IQ. Among children who were neither delinquent nor seriously mentally disturbed, the majority had no more than two setbacks.[60]

If having many different setbacks is in turn the result of having many unmet basic needs, then a recent government analysis should sound a dire warning. The analysis concluded that Americans living in poor families are four times more likely than the nonpoor (55 percent versus 13 percent) to have at least one of the following basic deprivations: utilities shut off, no phone at all or phone disconnected, housing with upkeep problems, not enough food in the past four months, crowded housing, no refrigerator, or no stove. Moreover, poor

Poverty and schools

Poverty can thwart children's right to equal education in many ways. Because of where they are compelled to live, "students from poor families usually receive their education in the poorest schools," according to the National Academy of Sciences.

"These schools have fewer financial and material resources, and they are often unable to retain the most skilled administrators and teachers. Student achievement levels in these schools are significantly lower on virtually all measures than for students in suburban schools."

Poor students have less access to computers at school as well as at home, and, nationwide, third-grade teachers in the poorest schools are two to four times more likely to report inadequate supplies of textbooks, workbooks, and audiovisual equipment compared with teachers in the schools with the least poverty.

Thirty-four states allow schools to charge fees for academic or extracurricular activities. Although some states require schools to waive fees for poor students, a student's reluctance to admit to poverty, as well as noncompliance by school administrators, can mean that fees are charged anyway.

In Utah, one parent recounted:

> My daughter was told that this year the fees couldn't be waived. They threatened to withhold her grades and diploma, and they always hounded her for money. I didn't have a job, and we didn't have any money, but every couple of weeks they would pressure my daughter for the money. She finally gave up and dropped out of school.

Children living in poverty experience double jeopardy. First, they are exposed more frequently to such risks as medical illness, family stress, inadequate social support, and parental depression. Secondly, they experience more serious consequences with these risks than do children with higher socioeconomic status.

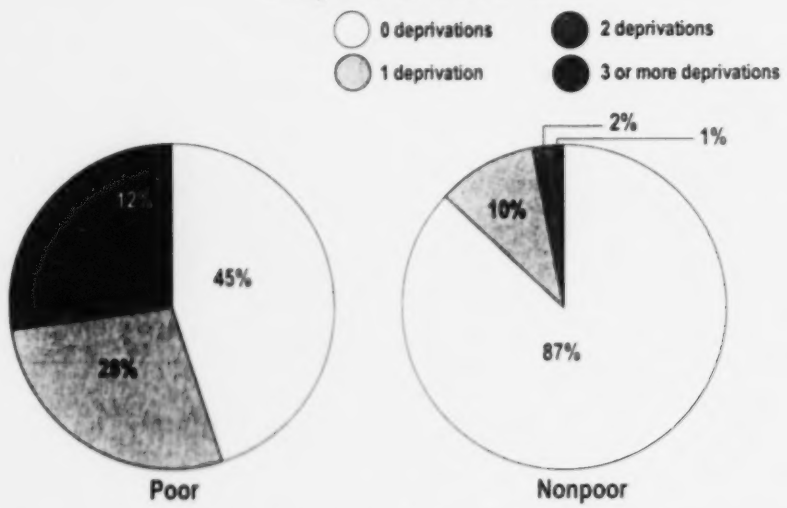
family members are nine times more likely (27 percent versus 3 percent) to have at least two of these deprivations. And the poor are 12 times more likely to have at least three of these deprivations at once.

Does it matter if poverty keeps a young child from having a well-lit, uncrowded home in which to learn?

Maybe not very much by itself — that is, if the child has the kind of high-quality child care that stimulates learning outside the home. In turn, not having good child care may not be as crucial if one's parents can pay the bills and avoid prolonged bouts of depression so they can provide steady discipline, attention, and emotional warmth. Having distressed parents may not matter as much to a healthy, well-nourished, good tempered child because most parents relate better to such children and find them easier to nurture. And not being healthy and good tempered may be less important if a child has regular care from a good family doctor because ongo-

Figure 4

Number of selected deprivations among poor and nonpoor Americans



Deprivations included: utilities shut off, no phone at all or phone disconnected, housing with upkeep problems, not enough food in the past four months, crowded housing, no refrigerator, or no stove.

Source

For both figures: Federman, M., et al. (1996). What does it mean to be poor in America? *Monthly Labor Review, 119*, 3-17. Data are from the 1989-1990 National Maternal and Infant Health Survey, 1993 National Household Education Survey, and 1992 High School and Beyond Survey. The researchers represent a number of federal statistical agencies.

'I had to work starting when I was 10'

It was hard to focus on school when you were worrying about survival — things like how to get home from school safely and how we were going to eat that night. In high school, I was a *D* student. I grew up in the projects, sharing my bedroom with two older sisters, with plenty of crime and poverty around us.

I had to work starting when I was 10. My whole life focus was not on learning; it was on staying alive. I had two or three odd jobs, from cutting grass to working in a janitorial service. That was not for saving for a bicycle but to help to pay for rent and food. The bills don't stop coming in because you're poor; they have to get paid. I couldn't sit back and complain.

But having to get up the next morning to go to school was hard. Athletics really saved me. Before the ninth grade I had to work multiple jobs. Then in the ninth grade my older sister got a job in a textile factory. That money let me have just one job after school, instead of two or three. That let me start playing sports, which I was never able to play before.

My grades didn't get better, but at least I had something that kept me coming to school. I didn't learn how to study because school wasn't as important as survival. Also being in remedial classes and low-level special ed classes made it hard. Still, I showed I had talent in class and in sports. I went to Hampton University on a full athletic scholarship. It took me well into my junior year of college to realize I was finally in a nurturing environment, where it wasn't about survival. Where I could find material that related to my life and described people who looked like me, an African American. Where I could focus on my studies.

And I began to get all *A*s.

Charles Kinard, MSW, ABD
Connecticut Department of Children and Families

ing care helps keep health problems under control and trusted doctors can be a source of helpful, steadying advice for the parents.

But when poverty erodes many or most of these supports at once, a child is left vulnerable and the harmful effects may snowball. This may explain why, as a team of pediatrician researchers has noted:[61]

> Children living in poverty experience double jeopardy. First, they are exposed more frequently to such risks as medical illness, family stress, inadequate social support, and parental depression. Secondly, they experience more serious consequences from these risks than do children from higher socioeconomic status.

Sometimes the risks associated with poverty clearly do more than add up — they interact in ways that multiply the damage to children still further. This interaction can explain why poor children at times seem more vulnerable to particular

harmful influences, or suffer worse consequences than wealthier children from the very same illnesses and setbacks.

One example is the virulent interaction between lead poisoning and iron deficiency. Because of bad housing and poor nutrition, poor children suffer more from both of these conditions. By themselves, these two illnesses are bad enough. When they interact in a child's body, however, the damage to the brain and nervous system is much worse. Blood cells need iron, and, failing to find enough of it, they will bond to other, similar metals, including lead in the child's bloodstream. As a result, iron-deficient children absorb more of the poiso-

Shame, fear, and anger

Susan was raised in poverty, and I am still learning the many ways it hurt her. I am her mother. Susan was born two weeks after my 18th birthday, and by the time she was 12 we had moved more than 30 times, always one step ahead of or behind the eviction notices, gas and light disconnect notices, and various other bills haunting our mailbox. We laughed a lot and tried to make it an adventure, like the time she was 6 and the two of us had to move our bed across town on a bus.

But then I would cry and cry and cry for days at a time. Being poor made me crazy, and Susan learned to be my support, caretaker, and defender before she could read. She made herself into a model child so that people would say I was a good mother and let us stay together.

A few times I tried to kill myself out of fear and shame at not being able to keep a roof over our heads, out of anger over not being able to keep a job, and needing to return over and over again to welfare out of desperation whenever the welfare department would cut off my eligibility by mistake.

Whenever I was put into a mental hospital, Susan would stay with my mother and father. What I didn't know until she was grown was that my brother was forcing sex on her each time she stayed with them. She was so afraid of what would happen to our little family that she hid her pain.

Poverty was more than not having enough. It was about not having any control over the most intimate parts of our lives, and, for me, about feeling shame, fear, and anger all the time. After more than 20 low-wage jobs, I enrolled in college when Susan was 8. A few years later we received a rent subsidy that allowed us to stay in one place. Things got a bit better. For the first time in either of our lives, we had community, permanent friends, and a sense of belonging. Today, Susan and I are successful professionals, and best friends. It didn't take much: a rent subsidy, a generous state university admissions policy, and access to mental health services. The rest we did on our own.

Anne, an employment training manager in Oregon

nous metal than would healthier children who ingest the same amount of lead.

Other interactions happen, not in the bloodstream, but in the child's family or neighborhood. Even the parents' role in nurturing their own children appears to be weakened by the interacting effects of economic stress and poor social support. Poor parents tend to treat their children more harshly than other parents — a finding accounted for in a number of studies by poor parents' greater feelings of economic stress.

The harsher treatment vanishes, however, if poor parents have strong social support, according to one nationwide study. The study defined strong social support as having at least three people the parent can call in a crisis or in the middle of the night. Poor parents who lack strong social supports are twice as likely as nonpoor parents to admit yelling or slapping their children very often. But among poor parents with strong support, yelling and slapping are virtually no more common than among the nonpoor.[42] Unfortunately, however, poor parents are less likely than wealthier parents to have strong support. Many even lack phone service, as well as a job, a working car, or other ways of keeping in touch with a support network of family, coworkers, and friends.

Whether occurring on the molecular level or the family or neighborhood level, the accumulating and interacting effects of poverty too often strain the capacity of poor children and their families to recover from the multiple problems that poverty strews in their path. ■

Chapter 5

How to End Child Poverty

Child poverty can and must be eliminated in this rich nation. America's extraordinarily high rate of child poverty is higher than for any other age group, higher now than in any year from 1966 to 1991, and higher than in any other Western industrialized nation. Other nations make other choices and have child poverty rates a fraction as large as ours.

A child in the United States is 60 percent more likely than a Canadian child, two times more likely than a British child, and three times more likely than a French or German child to live in poverty. Research has shown that the chief reason for these wide differences is that other nations have strong policies for boosting family income. These policies include making good quality child care affordable for every family; generous parental leave for working parents; cash, food, and housing assistance for all needy families; and child allowances and guaranteed child support for all families regardless of income. These policies add up to help families hold family-supporting jobs and lift their children out of poverty.

To our shame, America lacks a prowork, profamily policy to stop poverty. The changes wrought by the 1996 federal welfare law eliminated the federal role in ensuring cash assistance and cut food aid and disability assistance to millions of families. But it failed to fund or encourage training, education, or job creation, and even fueled the shortage of funding for child care assistance by imposing underfunded work requirements for welfare families. The law did virtually nothing to help families get and keep jobs at family-supporting wages.

Although Congress and the President created a $3 billion fund for welfare-to-work services in 1997, the new money pales besides the tens of billions cut by the 1996 welfare law. The vacuum left by the repeal of the former welfare system remains largely unfilled, and the number of working poor families with children has swelled to record levels. Sixty-nine percent of poor children in 1996 lived in a family where someone worked.

To reverse the plight of America's poorest children, new initiatives must support work and strengthen families. America must value families by ensuring that all families can gain the education, wages, health benefits, and other opportunities they require to feed, house, and nurture their children.

Families cannot be strong until they have the economic means to support their children. As researchers Paul R. Amato and Alan Booth have rightly written, "Economic strain erodes parents' marital quality and stresses moderately dissatisfying marriages to the point of dissolution. Any policy, therefore, that aims to improve . . . the economic well-being of families is also a promarriage and prochild policy."[61]

No one doubts that low-income children sometimes need more than an adequate family income to succeed. Uninsured children also need health coverage. Many low-income preschoolers also need Head Start's quality early education and developmental services to prepare for school. Children in every income group can benefit from classes to teach parenting skills to first time parents. Some children need even more intensive interventions. At the same time, none of these vital services can ensure success for poor children when their families cannot afford to meet their most basic needs.

Can America afford to end child poverty? For decades, too many of America's elected and business leaders have said no. But they have ignored half of the equation — the enormous costs of inaction. A nation that does not invest to end child poverty now will inevitably pay for its consequences later.

In truth, ending child poverty in a manner that supports work and preserves families is more than economically sensible; it is demanded by America's deepest moral values regarding work, family, mutual responsibility, compassion, and opportunity.

Every sector of the nation — including business, community and religious institutions, individuals, foundations, universities, and government — should strive to create new work- and family-based opportunities built around three principles:

1. Parents must have the tools required for family-supporting work, including child care, training, and transportation.

State and federal governments and businesses must work together to make safe and nurturing child care affordable for all families with working parents. Head Start's quality preschool and developmental services — which can help ease the effects of poverty and strengthen parents' ability to nurture their children — should be expanded to reach all eligible children and should reach beyond 4- and 5-year-olds to serve children younger than age 4.

Cities, counties, states, businesses, and community and religious institutions must use transportation, relocation opportunities, and other services to get isolated inner-city and rural workers into unfilled suburban jobs.

Businesses should increase training opportunities for workers, following the recommendation of the National Association of Manufacturers that between 3 percent and 5 percent of payroll should be spent on employee training and education.

The federal government should give states the flexibility to count training and education for welfare recipients as allowable ways to meet federal welfare-to-work participation quotas. Adequate funding should be provided for youth development and job training programs that help young people acquire the skills to compete for jobs that pay family-supporting wages.

2. Children must be able to count on support from both parents.

States should eliminate the disincentives for marriage that are an artifact of the old welfare system by offering two-parent poor families the same opportunities to support their families as single parent poor families.

Businesses should offer paid parental leave to allow all new parents to spend time with

a sick or newborn child, without sacrificing job security or losing family-supporting pay.

When parents do not stay together, states should vigorously collect regular and adequate child support from the absent parent. States should experiment with child support assurance systems — plans used in many countries to provide a stable monthly income for all single parent families with child support orders.

Single parents should help protect their children from some of the side effects of family breakup by refusing to argue with or belittle the other parent in their children's presence.

3. America must no longer allow any children — not least children in working families — to be poor.

The minimum wage should be raised until a full-time minimum wage job pays at least enough to support a family of three above the poverty line, as it did during most of the 1960s and 1970s. The federal minimum of $5.15 equals only 83 percent of the 1997 poverty threshold.

States as well as the federal government should provide fully refundable child tax credits that help all families with children bear the costs of child-rearing in the face of depressed wages and, often, increased taxes. While the nonrefundable $500-per-child tax credit passed by Congress in summer 1997 will help many moderate-income working families, millions of children are still denied all or part of the credit because their families owe no income taxes.

States should reform outmoded unemployment insurance rules, such as minimum earnings requirements that stop low-wage part-time workers from receiving unemployment benefits if they lose their jobs. States also should make much greater use of their longstanding option under federal law to supplement unemployment benefits for workers with children. Many states once offered substantial supplemental benefits for unemployed workers with dependents, but inflation gradually eroded their value; reviving them would strengthen this tool for targeting state assistance to those families most seriously affected by unemployment.

Businesses should ensure that employees have family-supporting wages and should embrace increased profit-sharing and improved cooperation with workers as steps toward enhanced productivity and competitiveness, as recommended by the National Association of Manufacturers.

States should eliminate any remaining disincentives for work (including rules that abruptly reduce and terminate assistance when families take jobs paying below-poverty wages) that are an artifact of the old welfare system, and reward work by allowing parents with low earnings to receive partial cash assistance payments. States that continue assistance when families move from welfare to work find that they pay less in cash assistance while the family's overall income is higher.

Cities, counties, states, and community institutions in job-shortage areas must create jobs that meet local needs such as housing rehabilitation, after-school activities

and develop other innovative strategies to start restoring jobless parents to full-time year-round work at adequate wages. Community economic development efforts should include expanding opportunities for microenterprises as alternative routes to economic self-sufficiency for poor families.

States and federal governments must continue to provide a safety net for the poorest children, including those who lose federal help under the new welfare law, and ensure that no child is ever deprived of food, clothing, shelter, or medical care. Some such help will always be necessary to help ill and unemployable family members, economically devastated communities, and the lowest paid working families, even if the nation succeeds in enacting the broader work- and family-based structure recommended here. ■

Endnotes

1. See Figure on page 3 and the Table on page 4 for references.

2. Centers for Disease Control and Prevention. Pediatric Nutrition Surveillance System. Unpublished data, January-December 1995; calculation by the Children's Defense Fund.

3. From Starfield, B. (1991). Childhood morbidity: Comparisons, clusters, and trends. *Pediatrics, 88,* 519- 521.

4. From Mayer, S. E. (1997). *What money can't buy: Family income and children's life chances.* Cambridge, MA: Harvard University Press.

5. From Corcoran, M., & Adams, T. (1997). Race, sex, and the intergenerational transmission of poverty. In Duncan, G., & Brooks-Gunn, J. (1997). *Consequences of growing up poor.* New York: Russell Sage.

6. Montgomery, L. E., Kiely, J. L., & Pappas, G. (1996). The effects of poverty, race, and family structure on U.S. children's health: Data from the NHIS, 1978-1980 and 1989-1991. *American Journal of Public Health, 86,* 1401-1405.

7. Centers for Disease Control and Prevention (1995, Dec. 15). Poverty and infant mortality — United States, 1988. Morbidity & *Mortality Weekly Report.*

8. Kennedy, M., et al. (1996, Jan.). Poverty, achievement and the distribution of compensatory education services. Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.

9. Duncan, G., Brooks-Gunn, J., & Kato Klebanov, P. (1994). Economic deprivation and early childhood development. *Child Development, 65,* 296-318.

10. Duncan, G., & Brooks-Gunn, J. (Eds.), *Consequences of growing up poor* (p. 601). See Note 5.

11. McLanahan, S. S. (1997). Parent absence or poverty: Which matters more? In G. Duncan & J. Brooks-Gunn (Eds.), *Consequences of growing up poor.* See Note 5.

12. Korenman, S., Miller, J. E., & Sjaastad, J. E. (1995). Long-term poverty and child development in the United States: Results from the NLSY. *Child and Youth Services Review, 17,* 127-155. Calculations by the Children's Defense Fund.

13. From Duncan, G., & Brooks-Gunn, J. (1997). See Chapter 12 (Tables 12.3 and 12.4), Chapter 13 (Table 13.4), Chapter 14 (Table 14A.2), and Chapter 15 (Table 15.3). See Note 5.

14. Data on children's years of schooling, adjusting for parents' welfare and IQ, from Duncan and Brooks-Gunn (1997). See Chapter 13 and compare Tables 13.4 and 13.10. See Note 5.

Data on children's academic test scores, adjusting for parents' academic and life skills (Armed Forces Qualifying Test scores) and smoking and drinking are in Korenman, Miller, and Sjaastad (1995). See Note 12.

Estimates including parents' religious beliefs are from R. Haveman and B. Wolfe (1994). *Succeeding generations: On the effects of investments in children.* New York: Russell Sage. See Table 5.2.

15. See Haveman, R., & Wolfe, B. (1994). A year of poverty without welfare is as bad or worse for children's educational attainment as a year in poverty receiving welfare. See p. 160 and Table 5.2. See Note 14.

See also Goldstein, N. (1991). *Why poverty is bad for children*. Unpublished doctoral dissertation. Harvard University, Cambridge, Mass.

Similarly, in an analysis of children's rates of high school graduation and college attendance, J. Teachman et al. (1997) observed that their findings "do not indicate that the proportion of income received from welfare affected any of the educational outcomes." See Duncan & Brooks-Gunn (1997), p. 399. See Note 5.

16. See Montgomery et al. (1996). See Note 6.

17. The Quebec and Wisconsin studies were among 12 recently released poverty studies by leading academic researchers. Summarizing these studies, Duncan & Brooks-Gunn (1997) concluded: "Family income has large effects on some measures of the children's ability and achievement, but not on the behavior, mental health, or physical health measures [that the researchers had examined]." See p. 597. See Note 5.

However, the lack of strong mental or physical health findings in these studies may reflect the limitations on the data available to this group of researchers. For example, the findings on overall health status and mortality summarized by Duncan and Brooks-Gunn were based on a study that contained virtually no childhood poverty data. Instead, the study examined the poverty status of Wisconsin high school graduates from the class of 1957, for their senior year and the three following years when they were of college age.

18. Starfield, B., et al. (1991). Race, family income, and low birthweight. *American Journal of Epidemiology, 134*, 1167-1174. Calculations by the Children's Defense Fund.

19. See Duncan, G., & Brooks-Gunn, J. (1997). p. 597. See Note 5.

20. Lewit, E., Terman, D., & Behrman, R. (1997). Children and poverty: Analysis and recommendations. *The Future of Children*, 7, 4-24.

21. Duncan, G., Yeung, W.-J., & Brooks-Gunn, J. (in press). Does poverty affect the life chances of children?" *American Sociological Review*.

22. Sandefur, G., & Wells, T. (1997, Sept.). *Using siblings to investigate the effects of family structure on educational attainment*. Discussion Paper No. 1144-97. Madison: Institute for Research on Poverty, University of Wisconsin.

23. To remove the influence of parents' stable traits, Mayer (1997) estimated the effect of the "transitory component" (i.e., temporary improvements or declines) in parents' income and used this effect as a proxy for income's "true" effect. Mayer estimated the impact of the transitory effect of income by drawing on information about parents' future incomes after the child is fully grown. See Note 4.

24. Mayer herself warns that estimates based on the temporary component of income do not provide a perfect overall measure of how income affects children. Such estimates are imperfect for several reasons. For example, if families tend to plan ahead based on their expected future income, then the technique (which is based on the assumption that future income cannot affect children) will be inaccurate and will understate the effect of income on children.

Under other scenarios, Mayer's calculations might conceivably overstate the true effects of income. For example, temporary changes in parents' income may be caused by events (such as the parents' divorce) that affect children's well-being for reasons that are partly nonfinancial. In this case again, temporary income is not an accurate proxy for the true effects of income.

Despite such potential flaws, Mayer's calculations using parents' future income are important because they show that income is strongly related to key child outcomes, such as education and earnings, and that this relationship cannot be explained as the inevitable result of unchanging traits inherent in poor families themselves.

25. Mayer does not try to establish what the most important unmeasured (but stable) advantages enjoyed by wealthier families might be. She speculated that they might include "skills, diligence, honesty, good health, and reliability." Other possibilities not noted by Mayer include safer neighborhoods, less domestic violence, or better business connections that might help a young person get a job.

26. When Mayer analyzed 12 child outcomes using temporary income, half of the outcomes showed income effects that were about the same as, or larger than estimates she made using more conventional techniques. (Specifically, the findings ranged from 10 percent smaller than conventional estimates and up to 57 percent larger.) For six other outcomes — ranging from behavior problems to single motherhood and male idleness — temporary income had a substantially smaller effect than did her conventional estimates.

27. In addition to examining the effects of temporary income, Mayer also used two other techniques for estimating the "true" effect of parents' income on a child. However, she cautions that neither technique yields conclusive results. One technique examines the effect of income that a family gets from sources *other than work or welfare*. Mayer argues that doing so is superior to examining overall income because these other income sources such as dividends or child support may be less closely tied to important unmeasured family traits.

On the other hand, she acknowledges that these other income sources are measured less accurately than income from work or welfare, and therefore this method will tend to *understate* income's importance. In any case, this approach yields estimates of income's effect on education and earnings that are similar to conventional estimates (Mayer's results are 1 percent lower for education, and 15 percent lower for earnings, compared with her estimates using traditional research techniques).

Mayer's final technique examines the impact of state welfare policies on children in single parent families. This technique yields conflicting results: Mayer reports that an earlier study using this approach found significant positive effects of welfare income on education, whereas her own calculations showed no positive effects.

28. Meyers, A. et al. (1993). Public housing subsidies may improve poor children's nutrition [Letters]. *American Journal of Public Health*, *83*, 115.

29. According to the Bureau of Labor Statistics (Report 859), families with rental assistance spent 30 percent of their budgets on housing and 29 percent on food in 1988-1990.

Low-income families who were eligible for assistance but who did not receive it spent much more for housing (42 percent) and less for food (25 percent). The unassisted households had higher average overall incomes, however ($9,646 compared with $7,724 among assisted households).

30. It is reasonable to suppose that families in assisted housing are no more advantaged, on average, than those on waiting lists. Because of meager public funding, many poor families who qualify for rent assistance are forced to spend years on a waiting list before they actually receive it. Moreover, to the extent that public policies (particularly priority for the homeless) do push certain types of families to the top of the waiting list, the resulting bias would likely understate, rather than overstate, the advantages to children of receiving a rent subsidy.

31. See Children's Defense Fund, *Wasting America's Future*, Chapter 4.

32. Brody, D., et al. (1994). Blood lead levels in the U.S. population: Phase 1 of the Third National Health and Nutrition Examination Survey (NHANES III, 1988 to 1991). *Journal of the American Medical Association, 272*, 277-283.

33. Public Health Service. (1991). Strategic plan for the elimination of childhood lead poisoning. Hyattsville, MD: U.S. Department of Health and Human Services. See Appendix II.

34. Needleman. H., et al. (1990). The long-term effects of exposure to low doses of lead in childhood: An 11-year follow-up report. *New England Journal of Medicine, 322*, 83-88.

35. Needleman, H., et al. (1996). Bone lead levels and delinquent behavior. *Journal of the American Medical Association, 275*, 363-369. See also Denno, D. (1990). *Biology and violence*. New York: Cambridge University Press. Denno is cited in Needleman et al. (1996). Lead exposure: The commonest environmental disease of childhood. *Zero to Three: Bulletin of National Center for Clinical Infant Programs, 11*.

36. See Brody et al. (1994). Low incomes were those below 1.3 times the poverty line. High incomes were those above three times the poverty line. Moderate incomes were those in between. See Note 32.

37. Public Health Service. (1994). *Nutrition and childhood lead poisoning: A quick reference guide for health providers*. Rockville, MD: U.S. Department of Health and Human Services.

38. Public Health Service. (1991). Strategic plan for the elimination of childhood lead poisoning. Hyattsville, MD: U.S. Department of Health and Human Services. See p. 11.

39. This calculation was also based on national blood lead levels measured as part of the National Health and Nutrition Examination Surveys (NHANES), conducted by the National Center for Health Statistics/Centers for Disease Control and Prevention (NCHS/CDC). CDF computed the annual savings as the "net present value of the increased earnings expected from the cohort of children turning 6 years of age each year." However, in order to isolate the effects of poverty, CDF computed increased earnings for poor 6-year-old children, rather than for all 6-year-olds. CDF's calculation was as follows:

> (children affected)(unit savings)(projected lead reduction) = annual savings (children affected) = 916,000, the number of poor 6-year-olds in 1996 (unit savings) = $1,451, the lifetime earnings, in 1996 dollars, saved by a 1.0 ug/dL reduction in one 6-year-old's blood lead (projected lead reduction) = 0.37, the mean blood lead reduction (in ug/dL) required to bring poor children to the level of similar children slightly above the poverty line.

This reduction was estimated conservatively by multiplying the average blood lead level of all children ages 6 to 11 (2.5 ug/dL, according to Brody et al., Table 1) by the percentage reduction in lead expected to result from raising the ratio of family income to the poverty line by one (for example, from 0.5 times the poverty line to 1.5 times the poverty line). This percentage reduction is 14.9 percent derived from the linear regression analysis by Brody et al., Table 6, which holds constant race/ethnicity, urban status, region, and parent education.

40. Schwartz, J. (1994). Societal benefits of reducing lead exposure. *Environmental Research, 66*, 105-124. Schwartz calculated that a reduction of 1.0 ug/dL in average blood lead level (for all children)

would produce an annual savings of $189 million in medical costs, $481 million in compensatory education costs, $1.14 billion in infant mortality, and $67 million in neonatal care. Along with $5.06 billion in lifetime earnings, this comes to a total future savings (in present value) of $6.937 billion per year.

41. Mueller, J. (1997). The economics of pay-as-you-go Social Security, and the economic cost of ending it. Arlington, VA: Lerman Bell Mueller Cannon.

42. One reason to think that the impact of poverty on a child's annual earnings may grow over time is that the impact on earnings of a number of individual components of human capital — such as school completion and skills — appear to grow for many years after early adulthood. If childhood poverty's overall effects follow a similar rising path for most of a child's work life, then the effects shown above will be understated.

43. CDF calculated the effect of each year of child poverty at current levels as follows:

> (2.5 percent of men's earnings of $541,686) averaged with (1.65 percent of women's earnings of $267,541) x (14,463,000 poor children in 1996) = $130 billion.

44. For a review of state-of-the-art estimates of the value of education, see Children's Defense Fund, *Wasting America's Future*, Chapter 4, Endnote 3.

Likewise, a more recent study of 700 twins determined that each year of education boosts wages by 9 percent for children overall and by 10 percent for high school graduates with less than a college education. See Ashenfelter & Rouse (in press). Income, schooling, and ability: Evidence from a new sample of identical twins. *Quarterly Journal of Economics.*

45. CDF calculated the effect of each year of child poverty at current levels as follows, based on the Census Bureau estimate that 14,463,000 children were poor in 1996:

> (0.045 lost years of school per year in poverty) x (10 percent wage decrease per lost year of school) x ($400,231 lifetime earnings) x (14,463,000 poor children) = $26.0 billion.

46. Haveman, Wolfe, and Ginther produced several alternative specifications that ranged from 0.042 to 0.05 year of lost schooling for each year a child was poor. Each estimate in turn was associated with a standard error confidence interval of approximately ±0.02. Combining these intervals together yields a range of plausible estimates that could be as low as $14 billion or as high as $41 billion. If our assumptions about the value of education are inaccurate, the range could be even wider.

47. CDF assumes that each added year of education will increase a child's future earnings by 10 percent, based on the best recent scholarly estimates. But it is possible that the value of a year of education could grow over time to be larger than 10 percent, since it has been growing in the past. Alternately, if many children improve their education (for example, as a result of successful efforts to lower poverty), then the relative shortage of educated workers might shrink, and employers might start paying a smaller premium for education than they do now.

48. Conger, R., Conger, D., Conger, K., & Elder, G., Jr. (1997). Family economic hardship and adolescent adjustment: Mediating and moderating processes. In *Consequences of growing up poor.* See Note 5.

49. U.S. Census Bureau [Donald J. Hernandez]. (1992). *When households continue, discontinue, and form*, Current Population Reports, Series P23-179. Washington, DC: Government Printing Office. See p. 19, Table I and p. 21. See also Hernandez, D. (1993). *America's children: Resources from family, government, and the economy. New York: Russell Sage.* See pp. 390-391. See also McLanahan, S. (1997). Parent absence or poverty: Which matters more? In *Consequences of growing up poor.* See Note 5.

50. See *Consequences of growing up poor*, p. 601. See Note 5.

51. U.S. General Accounting Office. (1990). *Early childhood education: What are the costs of high-quality programs?* Washington, DC: Author.

52. Board on Children and Families, National Research Council. (1997). *Child care for low-income families: Directions for research*. Washington, DC: National Academy Press.

53. NICHD Child Care Research Network. (1997). Poverty and patterns of child care. In *Consequences of growing up poor*. See Note 5.

54. The most recent official estimates show poor children had three times the risk of iron deficiency in the late 1980s. U.S. Department of Health and Human Services and U.S. Department of Agriculture, *Nutrition monitoring in the United States: An update report on nutrition monitoring* Washington, DC: U.S. Government Printing Office. See p. 150.

More recently, 28 percent of mostly low-income children in a Boston clinic were found to have low iron. See Meyers, A., et al. (1993). Public housing subsidies may improve poor children's nutrition. *American Journal of Public Health, 83*, 115. Regarding the impact of low iron on children, see Pollitt, E. (1988). Developmental impact of nutrition on pregnancy, infancy, and childhood: Public health issues in the United States. In N. Bray (Ed.), *International Review of Research in Mental Retardation* (Vol. 15, pp. 52-58). San Diego: Academic Press. See also Oski, F., & Honig, A. (1978). The effects of therapy on the developmental scores of iron-deficient infants. *Journal of Pediatrics, 92*; Oski, F., et al. (1983). Effect of iron therapy on behavior performance in nonanemic, iron-deficient infants. *Pediatrics, 71*; Lozoff, B., et al. (1991). Long-term developmental outcome of infants with iron deficiency. *New England Journal of Medicine, 325*, 687-694.

55. For percentage of children in homes with water leakage: American Housing Survey, 1989, tabulations by the Children's Defense Fund. For causes and consequences of asthma: see Lowry, S. (1989). Temperature and humidity. *British Medical Journal, 299*, 1326-1328; Weiss, K., et al. (1992): An economic evaluation of asthma in the United States. *New England Journal of Medicine, 326*, 864. See also Kang, V. (1990). Cockroach allergies and cockroach asthma. *Journal of Asthma and Allergy for Pediatricians, 3*, 228; Kang, V., et al. (1989). Analysis of indoor environmental atropic allergy in urban populations with bronchial asthma. *Annals of Allergy, 62*, 30; Bernton, H. (1967). Cockroach allergy: The relation of infestation to sensitization. *Southern Medical Journal, 60*, 852.

56. In a study of 813 Missouri families with children in Head Start, 231 families had moved three or more times in the last five years; more than half of these cited unaffordable heating bills as an important reason why they moved. See Colton, R. (1996). A road oft taken: Unaffordable home energy bills, forced mobility and childhood education in Missouri. *Journal of Children and Poverty, 2*, 23-40.

For effects of moving on test scores: see U.S. General Accounting Office, *Elementary school children: Many change schools frequently, harming their education*. Washington, DC: 1994. For effects on school completion: see Haveman & Wolfe, *Succeeding generation;* see Note 14; see also Goldstein, N. *Why poverty is bad for children*. See Note 15.

57. For rates of homelessness, see Culhane, D., & Metraux, C. (1996, Sept. 13). One-year rates of public shelter utilization by race/ethnicity, age, sex, and poverty status in New York City (1990 and 1995) and Philadelphia (1995). Paper presented to the Family Impact Seminar series, Housing Is Not Enough, Hart Senate Office Building, Washington, DC.

For consequences of homelessness, see Mihaly, L. K. (1991). *Homeless families: Failed policies and young victims*. Washington, DC: Children's Defense Fund. See Wood, D., et al. (1990). Health of homeless children and housed poor children. *Pediatrics, 86*, 858-866.

58. Duncan, G., Yeung, W.-J., & Brooks-Gunn, J. (in press). Does poverty affect the life chances of children? *American Sociological Review*.

59. Low-quality child care provides one example of how poverty might affect brain development. One Swedish experiment found that placing children in lower quality child care as measured by high numbers of children per staff caused them to have more emotional stress, greater levels of stress hormones, and more anxious and aggressive behavior.

See Cederblad, M., & Höök, B. Day care for 3-year-olds: An interdisciplinary experimental study. In Anthony, E. J., & Chiland, C. (1982). (Eds.), *The child in his family* (Vol. 7). New York: Wiley. High levels of stress hormones such as adrenaline can interfere with early brain development.

60. Werner, E., & Smith, R. (1982). *Vulnerable but invincible: A study of resilient children*. New York: McGraw-Hill. See p. 48, Table 9.

61. Parker, S., Greer, S., & Zuckerman, B. (1988). Double jeopardy: The impact of poverty on early childhood development. *Pediatric Clinics of North America, 35*, 1227-1240.

62. Hashima, P., & Amato, R. (1994). Poverty, social support, and parental behavior. *Child Development, 65*, 394-403.

63. Amato, P., & Booth, A. (1997). *A generation at risk: Growing up in an era of family upheaval* Cambridge, MA: Harvard University Press. See p. 232.

Praise for *Poverty Matters*

Poverty Matters provides compelling evidence of the substantial costs of poverty among children to our nation's economic well-being. The evidence shows that poverty by itself, as distinct from such factors as family structure, race, and parental education, has a significant adverse effect on both the educational attainment and future wages of the nation's poor children. And the costs don't stop with them, since study after study has documented that the educational attainment of the nation's work force is a major determinant of its growth rates. Moreover, as technology increases the demand for skilled workers, the returns to education are increasing, so the costs of poverty in terms of forgone earnings are also increasing for both the individuals who grow up in poverty and the economy as a whole. Policies to reduce the poverty rate among children — which typically remains higher in the United States than in any other advanced industrial countries — must be a fundamental part of our efforts to build a healthy economy for the 21st century.

— Laura D'Andrea Tyson
Former Chair, U.S. Council of Economic Advisors
Haas School of Business
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In optimistic moments, I like to believe that most Americans would want to lift children out of poverty even if it cost something. It is hard to blame little children for the problems that surround them now and will damage their future health, ability, and learning capacity. Doing nothing about it seems both immoral and unintelligent. As *Poverty Matters* shows, a perfectly reasonable case can be made that the reduction of child poverty now will pay for itself in the future by creating somewhat healthier, somewhat better educated, and somewhat more productive adults. No miracles are required. So the current costs of reducing child poverty are really investments with a future payoff.

— Robert M. Solow
Nobel Laureate in Economics
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